

ATTACHMENT TO INTERVIEW SUMMARY

Proposed EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with *** on ***.

The application has been amended as follows:

Claim 1 (Currently Amended). A bead trimmer [with a tool extraction system, preferably used] for use [used] in a production line of elements bearing longitudinal weld beads (21) in which one of the [an] elements slides along a direction which is parallel to a longitudinal axis (x) thereof, wherein [it] the bead trimmer comprises

a tool-bearing [turret] member (2) for removably fixing a bead-trimmer tool (30), which [turret] member (2) is supported by means for translating the [turret] member (2) on command according to at least one vertical direction (z) and at least one horizontal direction (y) which at least one horizontal direction (y) is [transversal] transverse with respect to the longitudinal axis (x) between an internal working position and an external tool-changing position, with a run which is sufficient to extract the [turret] member (2) from a working zone thereof;

wherein the means for translating comprise a first slide (3) to which the tool-bearing member (2) is associated, the first slide (3) being slidable along the at least one horizontal direction (y) between the internal working position, in which the tool (30) is aligned with the

weld bead (21), and the external tool-changing position, in which the tool (30) is not aligned with the weld bead (21);

the first slide being associated to an intermediate slide (34) and being configured so as to be slidable in the at least one horizontal direction (y) relative to the intermediate slide (34), which intermediate slide (34) is associated to a second slide (4) which is vertically slidable on a bearing structure (40) along the at least one vertical direction (z) between a lower position, in which the tool (30) is in contact with the weld bead (21), and a raised position, in which the tool (30) is distanced from the weld bead (21);

wherein the intermediate slide (34) is mobile, via a calibration mechanism, along the at least one horizontal direction (y) with respect to the second slide (4) in order to enable a centering of the tool (30) with respect to the weld bead (21).

2 (Currently Amended). The bead trimmer of claim 1, wherein the longitudinal axis of the element is horizontal [means for translating comprise a first slide (3), to which the turret (2) is associated; the first slide (3) being slidable along a horizontal direction (y) between the internal working position, in which the tool (30) is aligned with the weld bead (21) and the external tool-changing position, in which the tool (30) is not aligned with the weld bead (21), the first slide (3) being associated to the intermediate slide (34) which is associated to a second slide (4) which is vertically slidable on a bearing structure (40) along the vertical direction (z) between a lower position, in which the tool (30) is in contact with the weld bead (21) and a raised position, in which the tool (30) is distanced from the weld bead (21), the intermediate slide (34) being mobile along the horizontal direction (y) with respect to the second slide (4) in order to enable a correct centring of the tool (30) with respect to the weld bead (21)].

3 (Currently Amended). The bead trimmer of claim 1, wherein the first slide (3) comprises an elongate portion of a guide (5), vertically gripped between at least three wheels (6), axes of rotation of which wheels (6) are parallel to the longitudinal axis (x), the at least three wheels (6) being associated to the intermediate slide (34) and being conformed in such a way as to prevent the [intermediate] first slide [(34)] (3) from displacing along the [horizontal] longitudinal direction [(y)] (x), and along the at least one vertical direction (z) relative to the intermediate slide (34), the first slide (3) being translatable along the at least one horizontal direction (y) by means of a first actuator cylinder (7) which exhibits a stem connected to the first slide (3) and a body connected to the intermediate slide (34).

NOTE: as originally filed, aside from the many antecedent basis issues arising from the claim depending from claim 1 (when claim 1 as filed did not include any of the slides, for example), claim 3 as filed sets forth that the wheels 6 are conformed in such a way as to “prevent the intermediate slide 34 from displacing along the horizontal direction y and along the vertical direction z”. However, this does not appear to be accurate. Note that the intermediate slide 34 does move in the horizontal y direction relative to the second slide 4 via the use of the calibration mechanism 16 as described in at least page 3, lines 23-26, and additionally, it appears that since intermediate slide 34 is affixed to second slide 4, when second slide 4 displaces in the vertical direction z, that intermediate slide 34 also *does* displace along the vertical direction z. However, page 3, lines 15-17 set forth that the wheels 6 are conformed in such a way as to prevent displacement of the *first* slide 3 in direction x and along direction z (presumably, with respect to direction z, they only prevent movement in that direction (z) of the first slide 3 that is relative to the intermediate slide 34, as opposed to preventing vertical movement of the first slide

3 in general, as it would appear that the first slide 3 is mounted to intermediate slide 34, which is mounted to second slide 4, which moves vertically along the guides 8.

4 (Currently Amended). The bead trimmer of claim [2] 3, wherein the wheels (6) are mounted on supports having elastic means predisposed to enable the wheels (6) to move along a rotation axis thereof.

NOTE: without the change in dependency, “the wheels” lacks sufficient antecedent basis in the claim.

5 (Currently Amended). The bead trimmer of claim 1, wherein the second slide (4) is vertically slidable between two parallel guides (8) by means of an [second] actuator cylinder (9) operatively arranged between the second slide (4) and a vertical calibration mechanism (15) which is operatively arranged between the [second] actuator cylinder (9) and a portion of the bearing structure (40).

NOTE: as originally filed (aside from the antecedent basis issues arising from the dependency on claim 1, which, as originally filed, did not include any of the slides or the bearing structure), it is unclear how many actuator cylinders are being set forth in claim 5, noting that claim 5 depends from claim 1 which does not include any actuator cylinders (i.e., no “first” actuator cylinder had/has been previously set forth in claim 5 directly, nor in claim 1 from which claim 5 depends, and thus, it is unclear if the reference to a “second” cylinder intends to indicate that a “first” cylinder is implicitly being encompassed by the claim).

6 (Currently Amended). The bead trimmer of claim 1, wherein the [intermediate slide (34) is mobile along the horizontal direction (y) with respect to the second slide (4) by means of

a] calibration mechanism (16) is in the form of a screw-nut mechanism [which enables a correct centring of the tool (30) with respect to the weld bead (21)].

7 (Currently Amended). The bead trimmer of claim 1, wherein the first slide (3) is blockable with respect to the intermediate slide (34) when the first slide (3) is in [a] the internal position, by means of a blocking device (11) comprising a blocking and unblocking cylinder (12) arranged between the intermediate slide (34) and the first slide (3), a stem of which cylinder (12) exhibits a flange (17) predisposed to operate internally of a T-shaped hollow afforded on the first slide (3), the blocking and unblocking cylinder (12) being predisposed in a rest position thereof to exert a traction force, by means of elastic means, on the first slide (3) and to pull the first [guide] slide (3) into contact with the intermediate slide (34), and, when activated, to exert a force which is opposed to the force exerted by the elastic means and to free the first slide (3) from contact with the intermediate slide (34).

8 (Currently Amended). The bead trimmer of claim [6] 7, wherein the blocking and unblocking cylinder (12) operates in collaboration with a horizontal sliding guide (13) associated to the intermediate slide (34), which sliding guide (13) exhibits, in [transversal] transverse section, a wedge shape and which is predisposed to insert in a channel shaped accordingly thereto and afforded on the first slide (3), when the blocking and unblocking cylinder (12) is in [a] the rest position thereof, the sliding guide (13) being conformed and predisposed to define a reference with respect to a vertical direction for the [turret] tool-bearing member (2).

It is noted that as originally filed, the claims are replete with issues with respect to 35 USC 112. Some of these have been outlined above.

Examiner further notes that most of the claims as filed include a number of antecedent basis issues. Note, for example, that there are a number of dependent claims depending from claim 1 and including limitations to “the first slide”, the “intermediate slide” and/or “the second slide”, but that claim 1 doesn’t include any reference to any “slide”.

Additionally, regarding the bead trimmer having a “tool extraction system” as set forth in the preamble of claim 1 as filed, it is noted that this does not appear to be accurate, noting that no structure for performing any tool extraction is disclosed. Instead, the tool 30 is movable between a working position (shown in Figure 2) and a position wherein the tool is removed enough from the working position that it can be easily changed in an undisclosed manner. Thus, the bead trimmer as disclosed does not actually include any sort of “tool extraction system” (i.e., structure of some sort that actually performs an extraction or removal of the tool 30 from the bead trimmer), but is instead arranged and configured to be able to move the tool to a position where it may be more easily “extracted” from the tool holder 2 of the bead trimmer.

Also, the claims as originally filed set forth a tool-bearing turret 2 for removably fixing a bead-trimmer tool 30. However, the tool holding structure 2 does not appear to actually be a turret as such is typically defined. It is noted that tool turrets are generally pivotally indexable members including a number of tools at the periphery thereof such that the turret indexes a desired one of the tools into a working position. At the very least, a turret holds multiple tools, which does not appear to be the case with the tool holding structure 2 of the present invention.

Also, with respect to the prior art, as originally filed, there are a number of references which are applicable to at least claims 1-2 as originally filed.

For example, U.S. Pat. No. 5,131,136 to Uchida et al. teaches a machining device wherein a machine tool (see at least Figure 1 and title of invention, for example) has a spindle 17 for attachment of a tool 18 used to machine workpiece placed at table 12 (see Figure 1, and col. 3, lines 1-20, for example). Note that table 12 (and thus the workpiece or “element” attached thereto) moves in the direction designated by Uchida as “X”, which extends perpendicularly to the plane of the paper with respect to Figure 1 (col. 3, lines 1-20, Figure 1).

Regarding the device being a “bead trimmer”, it is noted that the rotating (note the use of the tool spindle 17) machine tool 18 taught by Uchida is considered to be inherently capable of performing this function (i.e., of trimming a bead from a workpiece), noting that the machining tool is blind as to the workpiece on which it operates (i.e., the tool doesn’t care what kind of workpiece it machines – it has machining structure so it machines whatever workpiece the machining structure contacts). Additionally note that “[i]nclusion of material or article worked on by a structure being claimed does not impart patentability to the claims.” *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). See also MPEP section 2115.

Also, regarding the “longitudinal axis” of the workpiece, it is noted that Uchida’s machining device is inherently capable of machining a workpiece whose longitudinal axis is parallel to the X direction of Figure 1, simply by placing the workpiece on the table 12 such that the longitudinal axis of the workpiece is parallel to the described X direction.

Additionally, the spindle 17 includes structure for holding a tool 18 therein, which structure itself and/or the spindle 17 is considered to constitute the claimed “tool-bearing turret”, insofar as the described “turret” of the present invention is considered to be a “turret”.

Also, the tool holding “turret” 17 and/or the tool-holding structure of 17 is supported by “means for translating the turret” on command (note the device is a CNC or numerically controlled device, and thus, responsive to “commands”, see at least Figure 5) according to at least one vertical direction (shown in Figure 1 as W, for example, see at least Figure 1) and at least one horizontal direction (shown in Figure 1 as Y, see at least Figure 1, for example), wherein the horizontal direction Y is transverse with respect to the described “longitudinal” shown X direction (Figure 1). Note that the tool “turret” is movable between an “internal” working position, i.e., a position that is above table 12 (see Figure 1), and an “external tool-changing position” that is outside of the “working zone” of the tool 18 relative to the table 12 (note that the “turret” moves in the shown Y direction along the cross rail 14 to a tool changing position proximate tool change equipment 21 that is labeled “ATC POSITION” in Figure 1, see also col. 3, lines 20-28, for example).

Re claim 2 as originally filed, note that element 15 corresponds to the “first slide”, element 16 can be considered the claimed “intermediate slide”. Note that “intermediate slide” 16 is considered to be “associated to”, as broadly claimed, the “first slide” 15, and to a “second”, vertically-movable slide 14 (see Figure 1, also col. 3, lines 1-20) that slides along “bearing structure” (any of 13 or 11, for example). Note also that the “intermediate slide” 16 is “mobile” along the horizontal Y direction with respect to the “second slide” 14 in order to enable a “correct centering of the tool” 18 with respect to the workpiece mounted on table 12.

It is additionally noted that there are many other references that are applicable to at least claim 1, and several additionally to claim 2. See, for example, U.S. Pat. No.’s 4,831,906 to

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Sugimoto et al., 4,949,443 to Saruwatari et al., 5,823,722 to Takenaka (see at least Figure 2), U.S. Pat. No. 6,514,183 to Hoppe (which has a European family equivalent with a 102(b) date, namely EP 1016497 A2, published 7/5/2000), DE-3831082, U.S. Pat. No. 4,987,668 to Roesch, and JP-2000-126953, to name a few.